

Application No. 09/873,310
Reply to Office Action of April 20, 2006

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IDSPage 2, Paragraph 2 of the Office Action

The Applicant thanks the Examiner for acknowledging the references cited.

DRAWINGSPage 2, Paragraph 3 of the Office Action

With regard to the Drawings, the Office Action states, "The drawings are objected to as failing to comply with 37 CFR 1.84(p) (5) because (a) The reference sign(s) mention in the description for figure 7 as "700" (see the disclosure page 8 paragraph 1038, (b) Figures 4A and 5 should be designated by a legend such - prior art - (See page 3, of the disclosure paragraphs 1012 and 1014) in order to clarify what is applicant's invention. (see MPEP 608.02(g)). A proposed drawing correction or corrected drawings are required in reply to the office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance."

In response to the objection to FIG. 7, the Applicant has corrected FIG. 7 by deleting the erroneous reference 502 and inserting reference 700 in its place.

In response to the objection to FIG. 4A, the Applicant has corrected FIG. 4A by inserting the legend (PRIOR ART) following the "FIG. 4A." Accordingly, the legend now reads "FIG. 4A (PRIOR ART)."

In response to the objection to FIG. 5, the Applicant has corrected FIG. 4A by inserting the legend (PRIOR ART) following the "FIG. 5." Accordingly, the legend now reads "FIG. 5 (PRIOR ART)."

In light of the amendment to the figures, the Applicant has submitted a new complete set of drawings in compliance with 37 CFR 1.21(d), which are filed herewith.

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REMARKS AND ARGUMENTS

The present application includes pending claims 1-14.

Claim Rejections Based Not Based on Prior Art

Claims 1-3, 5, 7, 9-11 and 13 are rejected under 35 U.S.C. § 112.

Claim Rejections Based on Prior Art

Claims 1-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lucidarme et al, hereinafter Lucidarme, United States Patent No. 6,675,016.

The Applicant respectfully submits that the claims define patentable subject matter. Accordingly, the Applicant respectfully traverses these rejections and requests reconsideration of the claims in view of the following remarks.

All Reasons and Bases for Rejecting Claims Set Forth In Office Action

Initially, the Applicant note that a goal of patent examination is to provide a prompt and complete examination of a patent application.

It is essential that patent applicants obtain a prompt yet complete examination of their applications. Under the principles of compact prosecution, each claim should be reviewed for compliance with every statutory requirement for patentability in the *initial review* of the application, even if one or more claims are found to be deficient with respect to some statutory requirement. Thus, Office personnel *should* state *all* reasons and bases for rejecting claims in the *first* Office action. Deficiencies should be explained clearly, particularly when they serve as a basis for a rejection. Whenever

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practicable, Office personnel should indicate how rejections may be overcome and how problems may be resolved. A failure to follow this approach can lead to unnecessary delays in the prosecution of the application.

Manual of Patent Examining Procedure (MPEP) § 2106(II). As such, the Applicant assumes, based on the goals of patent examination noted above, that the present Office Action has set forth "all reasons and bases" for rejecting the claims.

REJECTION TO THE CLAIMS UNDER 35 U.S.C. § 112**Page 4, Paragraph 5 of the Office Action**

Regarding Claims 1-3, 5, 7, 9-11 and 13, the Office Action states "Claims 1-3, 5, 7, 9-11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. a) Claims 1-3, 5, 7, 9-11 and 13 recite, "Cth bit". The phrase "Cth bit" is not defined by the claim. The examiner would appreciate if the applicant define and clarify this matter. b) The phrase "the remaining bits" in claims (1, 5, 6, 7, 9 and 13) is indefinite."

In response to the rejection for Claims 1-3, 5, 7, 9-11 and 13 regarding the Cth bit being undefined, the Applicant has amended the corresponding Claims as follows. Independent Claim 1 has been amended to recite the limitation of Claim 3, namely, "wherein C comprises a number of columns in said memory buffer." Accordingly, Claim 3 has been cancelled. Independent Claim 5 has been amended to recite the definition of the Cth bit by adding the limitation "wherein C comprises a number of columns in said memory buffer." Independent Claim 6 has been amended to recite the definition of the Cth bit by adding the limitation "wherein C comprises a number of columns in said memory buffer." Independent Claim 7 has been amended to recite the definition of the Cth bit by adding the limitation "wherein C comprises a number of columns in said memory buffer." Independent Claims 9 has been amended to recite the limitation of Claim 11, namely, "wherein C comprises a number of columns in said memory buffer." Accordingly, Claim 11 has been cancelled. Independent Claim 13 has been amended to recite the definition of the Cth bit by adding the limitation "wherein C comprises a number of columns in said memory buffer."

In response to the rejection for Claims 1, 5, 6, 7, 9-11 and 13 regarding the phrase "the remaining bits" being indefinite, the Applicant has amended the corresponding Claims as follows. Independent Claim 1 has been amended to cure the indefiniteness of the term "the remaining bits" by removing the word "the." Independent Claim 5 has been amended to cure the indefiniteness of the term "the remaining bits" by removing the word "the." Independent

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Claim 6 has been amended to cure the indefiniteness of the term "the remaining bits" by removing the word "the." Independent Claim 7 has been amended to cure the indefiniteness of the term "the remaining bits" by removing the word "the." Independent Claim 9 has been amended to cure the indefiniteness of the term "the remaining bits" by removing the word "the." Independent Claim 13 has been amended to cure the indefiniteness of the term "the remaining bits" by removing the word "the."

In view of the amendments to Claims 1-3, 5, 7, 9-11 and 13, the Applicant respectfully asserts that the rejections under 35 U.S.C. § 112 second paragraph be withdrawn. Additionally, in view of the amendments to Claims 1, 5, 6, 7, 9-11 and 13, the Applicant respectfully asserts that the corresponding claims are definite. Accordingly, the applicant respectfully request withdrawal of the rejection under 35 U.S.C. § 112 second paragraph.

REJECTION TO THE CLAIMS BASED ON PRIOR ART

Page 3, Paragraph 4 of the Office Action

Claims 1-14 are pending in the instant application. Claims 1-14 are currently rejected. Claims 10-11 are currently objected to. Claims 1, 5, 6, 7, 8, 9, 13, and 14 are independent claims. Claims 2-4 depend from Claim 1. Claims 10, 11 and 12 depend from Claim 9.

The Applicant has amended Claims 1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13 and 14.

The Applicant has cancelled Claims 3, and 11.

The Applicant request reconsideration of all the claims in view of the amendments and/or following remarks.

Claim Rejections under 35 U.S.C. § 103

With regard to an obviousness rejection, in order for a *prima facie* case of obviousness to be established, the MPEP 2142 states that the following three basic criteria must be met:

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicants disclosure.

Manual of Patent Examining Procedure MPEP at § 2142, citing *In re Vaeck*, 917 F.2d 188, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added). Additionally, if a *prima facie* case of obviousness is not established, the Applicant is under no obligation to submit evidence of nonobviousness.

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

See Manual of Patent Examining Procedure MPEP at § 2142.

Further, MPEP 2143.01 states that "the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination," and that "although a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so'" (citing *In re Mills*, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990)). Moreover, MPEP 2143.01 also states that "the level of

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ordinary skill in the art cannot be relied upon to provide the suggestion ...,“ citing *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ 2d 1161 (Fed. Cir. 1999).

**I. Lucidarme Does Not Render Claims 1-14 Unpatentable
Page 5, Paragraph 6 of the Detailed Action 35 U.S.C. § 103**

The Applicant first turns to the rejection of claims 1 and 9, all of which have been rejected under 35 U.S.C § 103(a). The Applicant notes that only Lucidarme forms a basis for rejection of all of the pending claims.

Lucidarme Does Not Teach or Suggest, at least, “sending downstream every Cth bit of an input data stream and for writing remaining bits of said input data stream to said memory buffer”

With regard to Claim 1, clause 1, the Office Action states:

“Lucidarme et al. substantially disclose a radio transmission system and a method of transmitting radio signals based on at least one data flow toward a radio communication station (see col. 1, lines 0-12). Lucidarme et al. in figure 3 teach a coding and multiplexing stage (18A) in the direction of transmission from the UTRAN (base station) to a UE (user equipment) (see col. 6, lines 22-30). Lucidarme et al. further in figure 3 teach an interleaving module (26) performs a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted. a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns those segments to the frames of the

TTI to form a sequence denoted for each frame and each TrCM i (27) (see col. 7, lines 1-35). It is noted however, Lucidarme et al. did not explicitly teach means coupled to a memory buffer as recited in claims 1 and 9. One of ordinary skill in the art at the time of the invention would have found it obvious to substitute the interleaving consists of writing (write/read) symbols of the sequence successively to the rows or column of matrix (memory buffer) and reading (write/read) the symbols of the matrix column by column to form the sequence denoted with the claimed means coupled to a memory buffer. This modification would have been obvious because a person having ordinary skill in the art would have been motivated in order to minimize consumption of space processing power or resource consumption."

The Applicant respectfully asserts that Lucidarme does not disclose at least the limitation of "sending downstream every C^{th} bit of an input data stream and for writing remaining bits of said input data stream to said memory buffer, where C comprises the number of columns in the memory buffer." (Emphasis added.) Instead, Lucidarme discloses "perform[ing] a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCM i (27) (see col. 7, lines 1-35).". None of these operations amounts to "sending downstream every C^{th} bit of an input data stream and for writing remaining bits of said input data stream to said memory buffer, where C comprises a number of columns in the memory buffer" as disclosed and claimed in the Applicant's invention.

Furthermore, even if each row or column of a matrix was stored in a row or column of a memory buffer, which differs substantially from the Applicant's disclosed and claimed invention, Lucidarme does not disclose at least the limitation of "sending downstream, a

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portion of an input data stream comprising every C^{th} bit of said input data stream and for writing at least some of a remaining bits of said input data stream to said memory buffer according to a first interleaving pattern, where C comprises a number of columns in the memory buffer." Instead, Lucidarme discloses reading symbols of a matrix column by column to form a particular sequence and then chopping the sequence segments of consecutive symbols so that they can be assigned to frames. The Applicant respectfully asserts that this is substantially different from the disclosed and claimed invention, since not the entire input data stream is stored in the memory buffer.

The Office Action states that "[it is] obvious to substitute the interleaving consists of writing (write/read) symbols of the sequence successively to the rows or column of matrix (memory buffer) and reading (write/read) the symbols of the matrix column by column to form the sequence denoted with the claimed means coupled to a memory buffer. This modification would have been obvious because a person having ordinary skill in the art would have been motivated in order to minimize consumption of space processing power or resource consumption." However, the Applicant's disclosed and claimed invention DOES NOT store every bit in the memory buffer. In fact, the Applicant's disclosed and claimed invention only stores "at least some of a remaining portion of bits of said input data stream to said memory buffer" In other words, "a portion of an input data stream comprising every C^{th} bit" is not stored in the memory buffer but is sent directly downstream without being stored in the memory buffer.

Accordingly, at least for the reasons cited above, the Applicant respectfully asserts that Claims 1 and 9 defines patentable subject matter, and is therefore in condition for allowance. The Applicant respectfully requests allowance of Claims 1 and 9.

Claims 2, 3 10, and 11

Lucidarme Does not Render Dependent Claims 2, 3 10 and 11 Unpatentable Paragraph 4 of the Detailed Action 35 U.S.C. § 103

With regard to claims 2, 3, 10 and 11, the Office Action stated, "These claims are at

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least rejected for their dependencies, directly or indirectly, on the rejected claims 1 and 9 above. They are therefore rejected as set forth above. In addition, Lucidarme et al. teach an **interleaving consists in writing symbols of the sequence to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence** denoted (see col. 7, lines "135.") (Emphasis added.)

With regard to Claims 3 and 11, both of these Claims have been cancelled, since the limitation contained in each has been incorporated in Claim 1 and Claim 9, respectively. Accordingly, the corresponding rejections for Claims 3 and 11 are now moot.

With regard to Claims 2 and 10, the Applicant respectfully asserts that Lucidarme does not teach "wherein said portion of an input data stream comprising every C^{th} bit is sent downstream **without being stored in said memory buffer.**" As explicitly stated in Lucidarme, interleaving involves **"writing the symbols of the sequence to the rows of a matrix"** and **"reading the symbol of the matrix column by column to form the sequence."** Since the symbols of the matrix are written to the rows of a matrix, then **ALL** the symbols are stored in the memory. Furthermore, since the symbols of the matrix are read column by column, then it is evident that **not every " C^{th} bit is sent downstream without being stored in said memory buffer"** as disclosed and claimed in the Applicant's invention. The Applicant respectfully asserts that Claim 2 and Claim 10 depend on claims that are believed to be allowable, and furthermore comprise subject matter that is substantially different from that which is disclosed in Lucidarme.

Accordingly, at least for the reasons cited above, the Applicant respectfully asserts that Claims 2 and 10 defines patentable subject matter, and is therefore in condition for allowance. The Applicant respectfully requests allowance of Claims 2 and 10.

Claims 4 and 12

Lucidarme Does not Render Dependent Claims 4 and 12 Unpatentable

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With regard to Claims 4 and 12, the Office Action states:

"The claims are at least rejected for their dependencies, directly or indirectly, on the rejected claims 1 and 9 above. It is therefore rejected as set forth above. In addition, Lucidarme et al. teach interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH i (27) (forming output data frame) and a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH i (27) (see col. 7, lines 1-35)."

With regard to Claims 4 and 12, the Applicant respectfully asserts that Lucidarme does not teach "reading at least some of said **remaining portion of bits of said input data stream** from said memory buffer, forming an output data stream." As explicitly stated in Lucidarme, interleaving involves "**writing the symbols of the sequence** to the rows of a matrix" and "**reading the symbol of the matrix column by column** to form a sequence denoted for each frame and each TrCH i (27)." Since the symbols of the matrix are written to the rows of a matrix, then all the symbols are stored in the memory. Furthermore, since the symbols of the matrix are read column by column, then it is evident that all the bits are used to form the output frame. This differs from the Applicant's claimed invention in which the "remaining bits from the memory buffer" are read, "forming an output data stream." The Applicant respectfully asserts that each of Claim 4 and Claim 14 depend on a claim which is believed to be allowable, and furthermore comprise subject matter that is substantially different from Lucidarme.

Accordingly, at least for the reasons cited above, the Applicant respectfully asserts that Claims 4 and 12 defines patentable subject matter, and is therefore in condition for

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allowance. The Applicant respectfully requests allowance of Claims 4 and 12.

Claims 5 and 13

Lucidarme Does not Render Independent Claims 5 and 13 Unpatentable

With regard to Claims 5 and 13, the Office Action states:

"Lucidarme et al. substantially disclose a radio transmission system and a method of transmitting radio signals based on at least one data flow toward a radio communication station (see col. 1, lines 8-12). Lucidarme et al. in figure 3 teach a coding and multiplexing stage (1 8A) in the direction of transmission from the UTRA (base station) to a UE (user equipment) (see col. 6, lines 22-30). Lucidarme et al. further in figure 3 teach an interleaving module (26) performs a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH i (27) (see col. 7, lines 1-35). It is noted however, Lucidarme et al explicitly teach means coupled to a memory buffer as recited in claims 5 and 13. One of ordinary skill in the art at the time of the invention would have found it obvious to substitute the interleaving consists of writing (write/read) symbols of the sequence successively to the rows or column of matrix (memory buffer) and reading (write/read) the symbols of the matrix column by column to form the sequence denoted with the claimed means coupled to a memory buffer. This modification would have been obvious because a person having ordinary skill in the art would have been motivated in order to minimize consumption of space processing power or resource consumption."

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With regard to Claim 5 and Claim 13, Lucidarme does not teach or otherwise disclose the limitation **"sending downstream, a portion of an input data stream comprising every Cth bit of said input data stream, wherein C comprises a number of columns in said memory buffer."** Instead, Lucidarme discloses "writing the symbols of the sequence **successively to the rows of a matrix**, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix **column by column** to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH i (27) (see col. 7, lines 1-35)." Accordingly, since Lucidarme teaches "writing the symbols of the sequence **successively to the rows of a matrix**" and "reading the symbols of the matrix **column by column** to form the sequence denoted," it could not have been obvious to one of ordinary skill in the art "to substitute the interleaving consists of writing (write/read) symbols of the sequence successively to the rows or column of matrix (memory buffer) and reading (write/read) the symbols of the matrix column by column to form the sequence denoted with the claimed means coupled to a memory buffer." However, the Applicant's disclosed and claimed invention does not store every bit in the memory buffer. In fact, the Applicant's disclosed and claimed invention only stores **"at least some of a remaining portion of bits of said input data stream to said memory buffer ..."** In other words, "a portion of and input data stream comprising every Cth bit" is NOT stored in the memory buffer but is sent directly downstream without being stored in the memory buffer. The Applicant respectfully asserts that Claim 5 and Claim 13 comprise subject matter that is substantially different from Lucidarme.

Accordingly, at least for the reasons cited above, the Applicant respectfully asserts that Claims 5 and 13 defines patentable subject matter, and is therefore in condition for allowance. The Applicant respectfully requests allowance of Claims 5 and 13.

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Claim 6**Lucidarme Does not Render Independent Claim 6 Unpatentable**

With regard to Claim 6, the Office Action states "Lucidarme et al. teach all the subject matter claimed in claims 1 and 9 including Lucidarme et al. in figure 2 disclose a medium access control layer (MAC) (17A) coupled to coding/ multiplexing (18A) and the coding/MUX connected to a radio which the radio (19A, 19B) (see in figure 3) wherein the radio comprises modulator (46)."

The Applicant respectfully asserts that Lucidarme does not teach all the subject matter claimed in amended claims 1 and 9. As previously discussed, Lucidarme does not teach, at least, "sending downstream, a portion of an input data stream comprising every C^{th} bit of said input data stream from said medium access control layer and for writing at least some of a remaining portion of bits of said input data stream to said memory buffer according to a first interleaving pattern, where C comprises a number of columns in the memory buffer." In other words, Lucidarme does not teach, at least, the concept of sending every C^{th} bit downstream, where C represents the number of columns in the memory buffer. The Applicant's disclosed and claimed invention DOES NOT store every bit in the memory buffer. In fact, the Applicant's disclosed and claimed invention only stores "at least some of a remaining portion of bits of said input data stream to said memory buffer . . ." In other words, "a portion of and input data stream comprising every C^{th} bit" is not stored in the memory buffer but is sent directly downstream without being stored in the memory buffer. At least for these reasons, Lucidarme does not teach all the limitations of Claim 1 plus the MAC and Claim 9 plus the MAC.

Accordingly, at least for the reasons cited above, the Applicant respectfully asserts that Claim 6 defines patentable subject matter, and is therefore in condition for allowance. The Applicant respectfully requests allowance of Claim 6.

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Claim 7**Lucidarme Does not Render Independent Claim 7 Unpatentable**

With regard to Claim 7, the Office Action states:

"Lucidarme et al. substantially disclose a radio transmission system and a method of transmitting radio signals based on at least one data flow toward a radio communication station (see col. 1, lines 8-12). Lucidarme et al. in figure 3 teach a coding and multiplexing stage (1 8A) in the direction of transmission from the UTRAN (base station) to a UE (user equipment) (see col. 6, lines 22-30). Lucidarme et al. further in figure 3 teach an interleaving module (26) performs a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in writing the symbols of the sequence successively to the rows of a matrix, comprising columns, in permuting the columns of the matrix, and in then reading the symbols of the matrix column by column to form the sequence denoted, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH i (27) (see col. 7, lines 1-35). It is noted however; Lucidarme et al. teach read/write unit coupled to a memory buffer as recited in claim 7. One skilled in the art at the time of the invention would have found it obvious to substitute the interleaving consists of writing (write/read) symbols of the sequence successively to the rows or column of matrix (memory buffer) and reading (write/read) the symbols of the matrix column by column to form the sequence denoted with the claimed means coupled to a memory buffer. This modification would have been obvious because a person having ordinary skill in the art would have been motivated in order to minimize consumption of space processing power or resource consumption."

The Applicant respectfully asserts that Lucidarme does not teach the claimed limitation of "wherein said read/write unit is configured to send downstream, a portion of an input data stream comprising every C^{th} bit of an input data stream ... wherein C comprises a number of

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columns in said memory buffer." Additionally Lucidarme does not reach the claimed limitation of "write at least some of a remaining portion of bits of said input data stream to said memory buffer" Instead, Lucidarme teaches "performs a permutation of the sequence delivered by a module (25) with a view to distributing the symbols pertaining to the TTI over the frames and this interleaving consists in **writing the symbols of the sequence successively to the rows of a matrix**, comprising columns, in permuting the columns of the matrix, and in then **reading the symbols of the matrix column by column to form the sequence denoted**, a module (27) then chops the sequence segments of consecutive symbols corresponding to the columns of the interleaving matrix after permutation, and respectively assigns these segments to the frames of the TTI to form a sequence denoted for each frame and each TrCH *i* (27) (see col. 7, lines 1-35)." Lucidarme's "**writing the symbols of the sequence successively to the rows of a matrix**" and "**reading the symbols of the matrix column by column to form the sequence denoted**" is substantially different from the Applicant's invention in which every C^{th} bit is sent downstream and remaining bits of the input data stream are written in the memory buffer.

At least for these reasons, "one skilled in the art at the time of the invention would" not "have found it obvious to substitute the interleaving consists of writing (write/read) symbols of the sequence successively to the rows or column of matrix (memory buffer) and reading (write/read) the symbols of the matrix column by column to form the sequence denoted with the claimed means coupled to a memory buffer."

Additionally, the Applicant's disclosed and claimed invention does not store every bit in the memory buffer. In fact, the Applicant's disclosed and claimed invention only stores "at least some of a remaining portion of bits of said input data stream to said memory buffer" In other words, "a portion of and input data stream comprising every C^{th} bit is not stored in the memory buffer but is sent directly downstream without being stored in the memory buffer.

Accordingly, at least for the reasons cited above, the Applicant respectfully asserts that Claim 7 defines patentable subject matter, and is therefore in condition for allowance. The Applicant respectfully requests allowance of Claim 7.

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Claims 8 and 14**Lucidarme Does not Render Independent Claims 8 and 14 Unpatentable**

With regard to Claims 8 and 14, the Office Action states:

"Lucidarme et al. teach all the subject matter claimed in claims 1 and 9 including Lucidarme et al. that the coding and multiplexing stage 18A is described with reference to FIG. 3 in the direction of transmission from the UTRAN to a UE. A similar structure is provided for the uplink (see specification 3G TS 25.212). Further, the characteristics of the transport format are supplied to the coding block (20) by the MAC stage (17A) and module (21) adding a cyclic redundancy checksum (CRC), serving to detect any transmission errors then concatenated and/or segmented by the module (22) to form blocks of appropriate size for the input of the channel coder (23) and rate matching modules (24) delete (puncture) or discard or repeat bits of the sequences so as to match the bit rate of the TrCHs to the global bit rate (see col. 6, lines 10-53)."

The Applicant respectfully asserts that Lucidarme does not disclose the limitation of "sending downstream, a first portion of an input code block a first radio frame, ... storing one or more additional radio frames from said input code block in said memory buffer, and discarding radio frames from a remaining portion of said input code block, ... for sending one or more additional radio frames downstream" At least for this reasons, Lucidarme does not teach all the limitations of Claims 1 and 9. Furthermore, Lucidarme does not teach all the limitations of Applicant's Claims 1 and 9 and the coding and multiplexing stage.

Accordingly, at least for the reasons cited above, the Applicant respectfully asserts that Claim 8 and 14 defines patentable subject matter, and is therefore in condition for allowance. The Applicant respectfully requests allowance of Claims 8 and 14.

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CONCLUSION

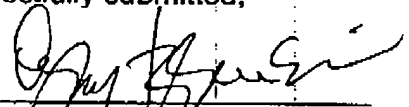
Based on the foregoing, the Applicant believes that all Claims 1-14 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and request that the Examiner telephone the undersigned Attorney at (312) 775-8191.

The Applicant reserves the right to argue additional reasons that support the Allowability of all rejected claims should that need arise.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,



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Registration No. 51,458
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Date: July 19, 2006

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